

**WHAT IS CLAIMED IS:**

1           1.       A method for reducing acquisition times in a GPS receiver associated with a  
2 cellular device, comprising the steps of:

3                   determining at startup of the GPS receiver occurrence of at least one of the  
4 following conditions: ephemeris data at the GPS receiver older than a predetermined period  
5 of time and a change in a mobile country code and mobile network code of the cellular  
6 device associated with of the GPS receiver;

7                   obtaining data for the GPS receiver from a reference server responsive to  
8 occurrence of one of the conditions; and

9                   calculating a current position of the GPS receiver at a reduced acquisition time  
10 using at least the obtained data.

1           2.       The method of Claim 1, wherein the step of obtaining further comprises the  
2 step of obtaining ephemeris and almanac data from the reference server via the internet.

1           3.       The method of Claim 1, wherein the step of obtaining further comprises the  
2 step of obtaining ephemeris and almanac data using a WAP protocol.

1           4.       The method of Claim 1, wherein the step of determining further comprises the  
2 step of comparing a present mobile country code and mobile network code with a previous  
3 mobile country code and mobile network code to determine if a change has occurred in the  
4 mobile country code and mobile network code of the GPS receiver.

1           5.     The method of Claim 1, further comprising the step of obtaining an  
2     approximate position of the GPS receiver based upon a present mobile country code and  
3     mobile network code associated with the GPS receiver.

1           6.     The method of Claim 5, wherein the approximate position comprises a  
2     longitude and latitude.

1           7.     The method of Claim 5, wherein the step of obtaining the approximate  
2     position further comprises the steps of:

3                     comparing the present mobile country code and mobile network code with  
4     entries in a table of mobile country codes and mobile network codes having position data  
5     associated therewith to locate a corresponding mobile country code and mobile network  
6     code; and

7                     selecting the position data associated with a corresponding mobile country  
8     code and mobile network code as the approximate position of the GPS receiver.

1           8.     The method of Claim 1, wherein the step of calculating a current position  
2     further comprises the step of determining a current position using the approximate position of  
3     the GPS receiver.

1           9.     The method of Claim 1, further comprising the step of obtaining a present  
2     time associated with the GPS receiver based upon the mobile country code and the mobile  
3     network code associated with the GPS receiver.

1           10.    The method of Claim 9, wherein the step of obtaining the present time further  
2     comprises the steps of:

3                   accessing a table of mobile country codes and mobile network codes having  
4     position data associated therewith;

5                   comparing the present mobile country code and mobile network code with  
6     entries in the table to locate a corresponding mobile country code and mobile network code;

7                   determining if the position data has changed by a selected amount between the  
8     present mobile country code and mobile network code and the corresponding mobile network  
9     code and mobile country code; and

10                  if the position data has not changed by the selected amount, determining a  
11     time for a previously used time zone.

1           11.    The method of Claim 1, wherein the predetermined period of time  
2     corresponds to approximately two hours.

1           12.    The method of Claim 1, wherein the step of obtaining further comprises the  
2     step of obtaining ephemeris and almanac data using a Mobile Internet Protocol.

1           13.    A method for reducing acquisition times in a GPS receiver associated with a  
2 cellular device, comprising the steps of:

3                   determining at startup of the GPS receiver occurrence of a change in a mobile  
4 country code or mobile network code of the cellular device associated with the GPS receiver;  
5                   accessing a table of mobile country codes and mobile network codes having  
6 position data associated therewith;

7                   comparing the present mobile country code and mobile network code with  
8 entries in the table to locate a corresponding mobile country code and mobile network code;

9                   selecting the position data associated with a corresponding mobile country  
10 code and mobile network code as an approximate position of the GPS receiver; and

11                  calculating a current position using the approximate position of the GPS  
12 receiver at a reduced acquisition time using at least the position data.

1           14.    The method of Claim 13, further comprising the step of obtaining ephemeris  
2 and almanac data from a reference server via the internet.

1           15.    The method of Claim 14, wherein the step of obtaining further comprises the  
2 step of obtaining ephemeris and almanac data using a Mobile Internet Protocol.

1           16.    The method of Claim 14, wherein the step of obtaining further comprises the  
2 step of obtaining ephemeris and almanac data using a WAP protocol.

1           17.    The method of Claim 13, wherein the step of determining further comprises  
2   the step of comparing a present mobile country code and mobile network code with a  
3   previous mobile country code and mobile network code to determine a change has occurred  
4   in a mobile country code or mobile network code of the GPS receiver.

1           18.    The method of Claim 13, further comprising the step of obtaining a present  
2   time associated with the GPS receiver based upon the mobile country code and the mobile  
3   network code associated with the GPS receiver.

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1           19.    The method of Claim 18, wherein the step of obtaining a present time further  
2 comprises the steps of:

3                   accessing a table of mobile country codes and mobile network codes having  
4 position data associated therewith;

5                   comparing the present mobile country code and mobile network code with  
6 entries in the table to locate a corresponding mobile country code and mobile network code;

7 and

8                   determining if the position data has changed by a selected amount determining  
9 if the position data has changed by a selected amount between the present mobile country  
10 code and mobile network code and the corresponding mobile network code and mobile  
11 country code; and

12                   if the position data has not changed by the selected amount, determining a  
13 time for a previously used time zone.

1           20.    A wireless communications device, comprising:  
2                   a wireless transceiver for establishing a connection with the Internet;  
3                   a GPS receiver for determining a position of the wireless communications  
4 device;  
5                   a table including a plurality of mobile country code and mobile network code  
6 pairs, each pair of mobile country codes and mobile network codes having a longitude and  
7 latitude associated therewith;  
8                   a controller configured to:  
9                        determine at startup of the GPS receiver occurrence of at least one of  
10 the following conditions: ephemeris data at the GPS receiver older than a  
11 predetermined period of time and a change in a mobile country code and mobile  
12 network code of the wireless communications device;  
13                        obtain an approximate position of the GPS receiver from the table  
14 based upon a present mobile country code and mobile network code associated with  
15 the GPS receiver.  
16                        obtain data for the GPS receiver from a reference server on the Internet  
17 using the wireless transceiver responsive to occurrence of one of the conditions; and  
18                        determine a current position of the GPS receiver at a reduced  
19 acquisition time using at least the obtained data and the approximate position.

1           21.     The wireless communications device of Claim 20, wherein the predetermined  
2     period of time corresponds to approximately two hours.

1           22.     The wireless communication device of Claim 20, wherein the controller is  
2     further configured to obtain ephemeris and almanac data from the reference server via the  
3     internet.

1           23.     The wireless communication device of Claim 22, wherein the controller is  
2     further configured to obtain ephemeris and almanac data using a Mobile Internet Protocol.

1           24.     The wireless communication device of Claim 22, wherein the controller is  
2     further configured to obtain ephemeris and almanac data using a WAP protocol.

1           25.     The wireless communication device of Claim 20, wherein the controller is  
2     further configured to compare a present mobile country code and mobile network code with a  
3     previous mobile country code and mobile network code to determine a change has occurred  
4     between mobile country code and mobile network code of the GPS receiver.

1           26.     The wireless communication device of Claim 20, wherein the approximate  
2     position comprises a longitude and latitude.



1           27.    The wireless communication device of Claim 20, wherein the controller is  
2 further configured to:

3                   access the table of mobile country codes and mobile network codes having  
4 position data associated therewith;

5                   compare the present mobile country code and mobile network code with  
6 entries in the table to locate a corresponding mobile country code and mobile network code;  
7 and

8                   select the longitude and latitude associated with a corresponding mobile  
9 country code and mobile network code as the approximate position of the GPS receiver.

1           28.    The wireless communication device of Claim 20, wherein the controller is  
2 further configured to obtain a present time associated with the GPS receiver based upon the  
3 mobile country code and the mobile network code associated with the GPS receiver.

29. The wireless communication device of Claim 28, wherein the controller is further configured to:

access a table of mobile country codes and mobile network codes having position data associated therewith;

compare the present mobile country code and mobile network code with entries in the table to locate a corresponding mobile country code and mobile network code;

and

determine if the position data has changed by a selected amount;

if the position data has not changed by the selected amount, determine a time for a previously used time zone.